

INDEX TO VOLUME 45

NOTE

- Names of authors and discussers, also those of deceased members preceding an obituary notice, are in caps and small caps. A discussor is distinguished from the author of a paper by (*D*), placed after the name of the paper. Illustrations are denoted by (*I*), curves by (*C*), and tables by (*T*).
- Titles of papers, where placed after the name of the author, and appearing in their exact form, are in italics. Papers are indexed not under their titles but under their subject-matter.

	PAGE
ACRES, H. G. <i>Modern Hydraulic Turbines of Large Capacity</i>	41
Adiabatic end point.....	749, 762, 791, 800, 818
ADLER, A. A. Boiler test results with preheated air (<i>D</i>).....	598
ADT, HOWARD E., obituary.....	889
Aeronautics, long-distance air navigation (<i>I</i>).....	841
National Advisory Committee for, Work of. <i>Making America Independent in the Air</i> . (Published in <i>Mechanical Engineering</i> , September 1923, p. 513)	
Air heaters, heating surface required (<i>T</i>).....	808
Air navigation, bibliography.....	875
long-distance, principles of (<i>I</i>).....	841
Air preheating with extracted steam.....	658
Air-space construction for refrigerators.....	507
AIRRY, JOHN. Design of milling cutters (<i>D</i>).....	176
ALDEN, V. E. Reheating and regenerating in central stations (<i>D</i>)	777
ALLEN, CHARLES M. Hydraulic turbines of large capacity (<i>D</i>)	65
<i>Salt Velocity Method of Water Measurement</i>	285
AMES, JOSEPH H., obituary.....	889
ANDERSON, ARTHUR H., obituary.....	890
ANGUS, R. W. Flow of water in short pipes (<i>D</i>).....	402
Hydraulic turbines of large capacity (<i>D</i>).....	58
Measurement of the flow of water (<i>D</i>).....	383
Angus shops of the Canadian Pacific Railway (<i>I</i>).....	151
Annual Report of Council.....	271
Auxiliary power required in steam power plants.....	689
Average thickness of chip.....	201
Balancing machines, recent developments in (<i>I</i>).....	111
BARNARD, DANIEL P. Journal lubrication (<i>D</i>).....	434
BARROWS, H. K. Salt velocity method of water measurement (<i>D</i>).....	378

	PAGE
BARTH, CARL G. Design of milling cutters (<i>D</i>).....	181
Power required for cutting metal (<i>D</i>).....	221
BASCH, D., AND SAYRE, M. F. <i>Resistance of Various Aluminum Alloys to Salt-Water Corrosion</i> . (Published in <i>Mechanical Engineering</i> , April 1924, p. 199)	
BATES, DANIEL M. Steam-loss prevention plan in textile finishing plant (<i>D</i>).....	415
Bauman coefficients (<i>C</i>)	815
BAYNE, GEORGE H., obituary.....	890
BEADENKOPF, GEORGE, obituary.....	890
Bearings, Kingsbury, for hydraulic turbines.....	46
Bending stresses in curved tubes of rectangular cross-section (<i>I</i>).....	135
Bending and torsion of multi-throw crankshafts on many supports (<i>I</i>).....	449
BENOIT, A. W. <i>Organization and Construction of Woolen Mills</i> . (Published in <i>Mechanical Engineering</i> , April 1924, p. 208)	
BENZON, GEO. H., JR. <i>Design and Construction of Large Machine Tools</i> . (Published in <i>Mechanical Engineering</i> , April 1923, p. 215)	
Bibliography, Air Navigation.....	875
Management	837
Refrigeration	513
Binary-vapor turbine.....	653
BIRCH, H. E., AND COES, H. V. <i>Coal-Storage Systems</i> . (Published in <i>Mechanical Engineering</i> , April 1924, p. 189)	
BLACK, ARCHIBALD AND DONALD R. <i>The Commercial Possibilities of the Airplane</i> . (Published in <i>Mechanical Engineering</i> , March 1924, p. 133)	
Bleeding efficiency (<i>C</i>)	791
BLODGETT, JOHN W. <i>Reforestation and Timber Conservation</i> . (Published in <i>Mechanical Engineering</i> , February 1924, p. 59)	
Boiler auxiliaries, power required by (<i>C</i>).....	612
Boiler Code. Interpretations of Code in cases submitted to Committee. (See <i>Mechanical Engineering</i> , April 1923, p. 261; July 1923, p. 443; August 1923, p. 505; October 1923, p. 612; December 1923, p. 719; and March 1924, p. 161)	
Proposed Code for Care of Power Boilers. (See <i>Mechanical Engineering</i> , June 1923, p. 368)	
Revisions of. (See <i>Mechanical Engineering</i> , April, May June and December 1923, pp. 261, 318, 379, and 713)	
Boiler heating surface required in steam power plants.....	693
Boiler-plant economics (<i>I</i>).....	607
Boiler-plant performance, rational formula for.....	607
Boiler, Scotch marine, efficiency of (<i>I</i>).....	229
Boiler test results with preheated air (<i>I</i>).....	567

	PAGE
Bolt Heads, carriage, standardization of, technical committee report	887
Round Unslotted, Standards for, Report of Committee on. (See <i>Mechanical Engineering</i> , December 1923, p. 725)	
BOORAEM, JOHN VAN VORST, obituary.....	891
BOSTON, O. W. <i>Flow of Water in Short Pipes</i>	393
BOURNE, T. P. Solid injection oil-engine (D).....	493
BOURQUIN, JAMES F., obituary.....	891
BOWER, WARD J., obituary.....	892
BRINTON, C. C. Balancing machines (D).....	133
BRINTZINGER, CHARLES H., obituary.....	892
BRITTON, JOHN A., obituary.....	892
BROIDO, B. N. Reheating and regenerating in central stations (D)	793
BROOKS, C. E. <i>Recent Developments of the Motor Coach</i> . (Published in <i>Mechanical Engineering</i> , August 1923, p. 463)	
BROWN, E. H. <i>Economy Characteristics of Stage Feedwater Heating by Extraction</i>	713
BROWN, GEOFFREY C. Steam-loss prevention plan in textile finishing plant (D).....	416
BROWN, WALTER, obituary.....	893
BROWNING, CHARLES, JR., obituary.....	893
BRUNER, D. L., AND HARRIS, H. R. <i>Night-Flying Equipment and Operation</i> . (Published in <i>Mechanical Engineering</i> , May 1924, p. 274)	
BUCK, HAROLD W. Hydroelectric development problems.....	563
BUNTON, F. L., obituary.....	894
BURKE, HENRY MORGAN. <i>Steam-Loss Prevention Plan Operating in a Textile Finishing Plant</i>	405
BURNSIDE, EDWIN A., obituary.....	894
BUSSEY, CHARLES C., obituary.....	894
Car construction at Angus shops of Canadian Pacific Railway (I).....	151
Carnot cycle	664
CARPENTER, JAMES M. obituary.....	895
Carriage Bolt Heads, Standard for. See Wrench-Head Bolts and Nuts	
CARRIER, WILLIS H. Economical thickness of insulation in refrigerator cars (D).....	523
Cars, fruit, economics of (T).....	506
refrigerator, economical thickness of insulation in (I).....	497
Cast iron, power required for milling (C).....	198
Celite as refrigerator insulation.....	517
Central station steam plant, margins of possible improvement in (I).....	644

	PAGE
Central stations, overall economies (C).....	751
reheating in (I).....	741
Chains, transmission, technical committee report.....	886
Channels, open, gaging in.....	239
Chemical industry, power demands of.....	543
CHESS, HARVEY B., JR., obituary.....	895
CHRISTIE, A. G. Boiler test results with preheated air (D)....	601
Reheating and regenerating in central stations (D).....	786
Stage reheating in central stations (D).....	782
CHURCHILL, H. W. <i>Some Production Problems in the War Department's Preparedness Program.</i> (Published in <i>Mechanical Engineering</i> , May 1924, p. 268)	
CHURCHILL, W. L. <i>The Mechanical Engineer in the Manage- ment of Woodworking Industries.</i> (Published in <i>Me- chanical Engineering</i> , December 1923, p. 692)	
CLARK, FRANK S. Reheating and regenerating in central sta- tions (D).....	778
CLARK, WALLACE. Steam-loss prevention plan in textile finish- ing plant (D).....	419
CLARKE, C. W. E. <i>Boiler Test Results With Preheated Air at Colfax Station, Duquesne Light Co.</i>	567
Code of Ethics.....	284
Codes. Boiler Code. See Boiler Code	
Power Test Codes. See Power Test Codes	
Safety. See Safety Codes	
COES, H. V., AND BIRCH, H. E. <i>Coal-Storage Systems.</i> (Pub- lished in <i>Mechanical Engineering</i> , April 1924, p. 189)	
COFFIN, J. G. Principles of long-distance air navigation (D)..<	880
COLAHAN, CHARLES, obituary.....	895
COLE, FRANCIS J., obituary.....	896
Colfax station of Duquesne Light Co., boiler test results with preheated air.....	567
Condenser surface required in steam power plants.....	688
Constitution of the Society.....	280
COOK, DOUGLAS P. <i>Pressed-Metal Engineering.</i> (Published in <i>Mechanical Engineering</i> , March 1924, p. 123)	
CORE, W. WALLACE, obituary.....	897
Cork, regranulated, as refrigerator insulation.....	505
Cost of energy in steam power plants (C).....	704
of steam power.....	559
of steam power plants (C).....	700
of water power.....	559
COTTON, ALFRED. <i>The Determination of Chimney Sizes.</i> (Pub- lished in <i>Mechanical Engineering</i> , September 1923, p. 531)	
Council, Annual Report of.....	271
COWIE, FREDERICK W. <i>The Port of Montreal.</i> (Published in <i>Mechanical Engineering</i> , September 1923, p. 521)	

	PAGE
Cracking, oil.....	479
Crankshafts, bending and torsion of (I).....	449
CREEHOSKI, JOSEPH V., obituary.....	897
Cross-flow impulse turbine (I).....	77
CROZIER, H. W., STIGEN, JOHN, AND NAGEL, C. E. <i>Diesel-Engine Progress on the Pacific Coast.</i> (Published in <i>Mechanical Engineering</i> , July 1923, p. 421)	
CURTIS, WALTER M., obituary.....	897
Curved tubes of rectangular cross-section, bending stresses in (I)	135
Cycle, Carnot.....	664
extraction	649
ideal, effect of feed pump work on (T).....	672
isothermal-regenerative	670, 677
isothermal-superheating	667, 675
Rankine	665, 673
regenerative	667, 676
reheating	666, 674
reheating-regenerating	669, 677
steam bleeding	744, 758
steam, combination	759
steam reheating	742, 757
Cycles, ideal, efficiencies of.....	671
ideal steam power plant.....	664
steam, theoretical capacities of (C).....	661
steam, theoretical efficiencies of (C).....	650
DARLINGTON, F. Hydroelectric power in Canada (D).....	36
DAVIS, HARVEY M. <i>Progress Report on the Joule-Thomson Effect.</i> (See <i>Mechanical Engineering</i> , Feb. 1924, p. 85)	
Dead reckoning in air navigation.....	843
DEAN, PETER PAYNE. <i>Sectionalization and Remote Control of High-Pressure Steam Lines.</i> (Published in <i>Mechanical Engineering</i> , August 1923, p. 483)	
Delray station, Detroit Edison Co., economics of boiler plant	638
DEPUY, CLARENCE E., obituary.....	898
Despatcher, power	407
Detroit Edison Company power plants, reheating in.....	774
DEWEY, HARRY E., obituary.....	898
Diesel engine.....	475
DIMICK, HORACE G., obituary.....	898
Doelling oil engine.....	474
DOOLITTLE, H. E. <i>The Integrating Gate: A Device for Gaging in Open Channels.</i>	239
Draft tubes, hydraulic-turbine.....	47
DREWRY, M. K. <i>Economy Characteristics of Stage Feedwater Heating by Extraction.</i>	713, 812

	PAGE
Drift indicators.....	847
DRURY, ALEXANDER G., obituary.....	899
DUBRUL, ERNEST F. <i>Economic Features of the Machin.-Tool Industry.</i> (Published in <i>Mechanical Engineering</i> , March 1923, p. 151)	
EATON, G. M. Balancing machines (D).....	130
Economical thickness of insulation in refrigerator cars (I)....	497
Economics, boiler-plant (I).....	607
of fruit cars (T).....	506
Economy characteristics of stage feedwater heating by extrac- tion (I).....	713
Effect of variations in design of milling cutters on power re- quirements and capacity (I).....	165
Efficiencies of ideal cycles.....	671
steam-generator, for various cycles and pressures (T)....	751
Efficiency, bleeding (C).....	791
factors, turbine (T).....	792
of the Scotch marine boiler (I).....	229
EGAN, THOMAS P., obituary.....	899
EIFFEL, ALEXANDRE G., obituary.....	899
EKSERGIAN, R. Bending and torsion of crankshafts (D).....	469
ELLENWOOD, F. O. <i>High Pressure, Reheating and Regenerating for Steam Power Plants.</i>	663, 802
ELLIS, LEWIS M., obituary.....	900
ELMER, W. Journal lubrication (D).....	441
ELY, SUMNER B., AND RITTMAN, W. F. <i>Power and Fuel Con- sumption of the Iron and Steel Industries of the Pitts- burgh District.</i> (Published in <i>Mechanical Engineering</i> , July 1923, p. 401)	
End point, adiabatic	749, 762, 791, 800, 818
Endurance test data and their interpretation (I).....	141
Energy, cost of in steam power plants (C).....	704
Engine, Diesel	475
Doelling	474
Gunther	478
Hesselman	490
Hornsby-Ackroyd	472
McKechnie	477
oil, solid-injection (I).....	471
Price	474
Engineer, the; his abilities and public obligations.....	257
Ethics, code of.....	284
Exhaust steam, available energy of (C).....	682
Expansion lines, turbine.....	720
Extraction characteristics, turbine.....	729
cycle	649

	PAGE
feedwater heating by.....	713
heating, percentage of heat saving by (C).....	735
steam, formulas for.....	662
FAIRCHILD, F. P. Boiler test results with preheated air (D)...	604
Feed pump, effect of work of on ideal cycle (T).....	672
Feedwater heating by extraction (I).....	713
parallel	658
Feedwater temperatures in regenerative steam power plants (T)	686
in reheating-regenerative steam power plants (T).....	687
FISCHER, ERNST G. Principles of long-distance air navigation (D)	878
FLEER, ROBERT J., obituary.....	901
Flow control in hydraulic turbines.....	43
Flow measurement, Gibson method.....	55
Flow of water, Gibson method of measuring.....	343
in open channels, measurement of.....	239
in short pipes (I).....	393
measurement of by salt velocity method.....	285
FLOWERS, A. E. Journal lubrication (D).....	440
Fluid Meters, Research Progress Report. (See <i>Mechanical Engineering</i> , February 1923, p. 135)	
FORSYTH, WILLIAM, obituary.....	901
FREDERICK, CHARLES L., obituary.....	901
FREEMAN, JOHN R. <i>Fundamental Problems of Hydroelectric Development</i>	527
Hydroelectric power in Canada (D).....	37
FROST, T. H., AND McADAMS, W. H. <i>Heat Transfer for Water Flowing Inside Pipes</i> . (Published in <i>Refrigerating Engineering</i> , March 1924, p. 323)	
Fruit cars, economics of (T).....	506
Fuel consumption in steam power plants.....	702
Fundamental problems of hydroelectric development.....	527
FUNK, N. E. <i>Boiler-Plant Economics</i>	607
GABY, F. A. <i>Hydroelectric developments in Ontario</i>	21
Gages, plain limit, technical committee report.....	886
Gaging in open channels.....	239
GALBREATH, W. W., AND WINTER, JOHN R. <i>The Development of Modern Stamping Practice</i> . (Published in <i>Mechanical Engineering</i> , January 1924, p. 17)	
GARDNER, H. A. <i>Recent Observations Regarding the Corrosion, Cleansing, and Protection of Aluminum</i> . (Published in <i>Mechanical Engineering</i> , April 1924, p. 206)	
Gate, integrating (I).....	239
Gears, herringbone, standards for. (See <i>Mechanical Engineering</i> , February 1923, p. 145)	

	PAGE
GIBSON, NORMAN R. <i>Method and Apparatus for Measuring the Flow of Water in Closed Conduits (I)</i>	343
Gibson method of flow measurement.....	55
GOODWIN, E. CLAYTON, obituary.....	902
GOODWIN, WILLIAM G., obituary.....	902
GOUGH WILLIAM E., obituary.....	902
Government, the engineer in.....	258
Governors, hydraulic-turbine.....	47
Graphical study of journal lubrication (I).....	421
GRAVES, BENJAMIN P. <i>Effect of Variations in Design of Milling Cutters on Power Requirements and Capacity (C)</i>	165
Power required for cutting metals (D).....	217
GREENE, LEVI R., obituary.....	903
GREGORY, P. S. Hydroelectric power in Canada (D).....	38
Ground-speed indicators.....	847
GULOWSEN, G. A., obituary.....	903
Gunther oil engine.....	478
HAAR, SELBY. <i>Modern Subway Cars and Their Operation.</i> (Published in <i>Mechanical Engineering</i> , Nov. 1923, p. 647)	
HACKNEY, ROBERT H., obituary.....	903
HADLEY, S. A. Solid-injection oil engines (D).....	496
HAINES, H. S., obituary.....	927
Hair felt as refrigerator insulation.....	505
HALL, IRVING G., obituary.....	904
HALL, JAMES A. <i>Effect of Variations in Design of Milling Cutters on Power Requirements and Capacity</i>	165
Journal lubrication (D).....	442
Power required for cutting metal (D).....	217
HANSCOM, C. D. Principles of long-distance air navigation (D)	882
HARRINGTON, JOHN LYLE. <i>The Engineer; His Abilities and Public Obligations</i>	257
HARRIS, H. R., AND BRUNER, D. L. <i>Night-Flying Equipment and Operation.</i> (Published in <i>Mechanical Engineering</i> , May 1924, p. 274)	
HARTNEY, H. E. Principles of long-distance air navigation (D)	882
HARVEY, J. Boiler-plant economics (D).....	638
Heat consumption of prime movers (C).....	797
Heat cycle, effect of modifications in, on power-plant economics	643
Heating of feedwater.....	713
Heating, stage, comparative economy of.....	737
Heating surface required in steam power plants.....	693
HECK, GEORGE D., obituary.....	904
HEGENBERGER, E. F. Principles of long-distance air navigation (D)	883
HEINDLHOFFER, K. <i>Endurance Test Data and Their Interpretation</i>	141

	PAGE
HELANDER, LINN. Reheating and regenerating for central stations (D).....	788
Stage reheating in central stations (D).....	785
HERING, RUDOLPH, obituary.....	904
HERR, DONALD D., obituary.....	905
HERSCHEL, CLEMENS. Measurement of the flow of water (D).....	377
HERSEY, MAYO D. Journal lubrication (D).....	439
<i>Principles of Long-Distance Air Navigation</i>	841
HERTER, CHARLES H. Economical thickness of insulation in refrigerator cars (D).....	516
Hesselman oil engine.....	490
HEYMANS, PAUL, AND KIMBALL, A. L., JR. <i>Stress Distribution in Rotating Gear Pinions as Determined by the Photoelastic Method</i> . (Published in <i>Mechanical Engineering</i> , March 1924, p. 129).....	905
HIBBS, JOSEPH S., obituary.....	905
High pressure, reheating and regenerating for steam power plants (I).....	663
HINCHEY, H. JOHN O., obituary.....	906
HIRSHFELD, C. F. Boiler test results with preheated air (D)..<	598
<i>High Pressure, Reheating and Regenerating for Steam Power Plants</i>	663
HOBSTETTER, NORMAN A., obituary.....	906
HODGKINSON, F. Reheating and regenerating in central stations (D).....	799
HOGAN, JOHN P. Hydroelectric development problems (D)...	555
HOGG, THOMAS H. Gibson method of measuring the flow of water (D).....	388
HOOD, O. P. <i>Factors in the Spontaneous Combustion of Coal</i> . (Published in <i>Mechanical Engineering</i> , December 1923, p. 691)	
<i>Lignite Char: Its Production and Possibilities</i>	99
Hornsby-Ackroyd oil engine.....	472
HORNUNG, GEORGE, obituary.....	906
Horsepower of a pound of steam (C).....	795
HOWARTH, H. A. S. <i>Graphical Study of Journal Lubrication</i> ..	421
Hydraulic turbines of large capacity (D).....	64
HUGO, T. W., obituary.....	907
HULETT, GEORGE H., obituary.....	907
HUNT, JAMES L., obituary.....	908
HUNT, ROBERT W., obituary.....	908
Hydraulic turbines of large capacity (I).....	41
Hydroelectric development, fundamental problems of.....	527
developments in Ontario (I).....	21
development possibilities, study of.....	555
possibilities of Quebec (I).....	13
power, cost of.....	529

	PAGE
Ice, annual cost of for refrigeration (C).....	501
ILLMER, LOUIS. Solid-injection oil engines (D).....	495
Indicators, drift.....	847
ground-speed	847
Industries, operation statistics of (T).....	839
INOKUTY, ARIYA, obituary.....	910
Instruments and Apparatus, Test Code on. Chapters 1 and 2, A.S.M.E. Power Test Code. (Published in <i>Mechanical Engineering</i> , February 1923, p. 116)	
Insulation, refrigerator, bibliography of.....	513
Integrating gate (I).....	239
Interconnection of power systems.....	563
Internal-Combustion Engines, Power Test Code for. Prelimi- nary Draft. (See <i>Mechanical Engineering</i> , March 1923, p. 193)	
Isothermal-regenerative cycle.....	670, 677
Isothermal-superheating cycle.....	667, 675
JEFFERSON, C. J. <i>Efficiency of the Scotch Marine Boiler</i>	229
JOHNSON, ABBOTT L., obituary.....	910
JOHNSON, CARL A. Balancing machines (D).....	131
JOHNSON, R. D. Methods of measuring the flow of water (D)	386
Journal lubrication, graphical study of.....	421
Kearsarge (U. S. Navy Crane Ship No. 1). Conversion of. (See <i>Mechanical Engineering</i> , June 1923, p. 333)	
KEENAN, WALTER M. Feedwater heating by extraction (D)..	779
KENT, ROBERT T. <i>The Mechanical Engineering of Management in the Metal-Working Trades</i> . (Published in <i>Mechani- cal Engineering</i> , May 1924, p. 272)	
KERR, C. V. Cross-flow impulse turbine (D).....	97
KEYES, FREDERICK G. <i>Progress of the M. I. T. Portion of the Steam Investigation</i> . (Published in <i>Mechanical Engi- neering</i> , February 1924; p. 82)	
KILLAM, HORACE G. Steam-loss prevention plan in textile finishing plant (D).....	418
KIMBALL, A. L., JR., AND HEYMANS, PAUL. <i>Stress Distribution in Rotating Gear Pinions as Determined by the Photo- elastic Method</i> . (Published in <i>Mechanical Engineering</i> , March 1924, p. 129)	
KIMBALL, DEXTER S. <i>The Development of Machine Tools</i> . (Published in <i>Mechanical Engineering</i> , March 1923, p. 154)	
KLEINSCHMIDT, R. V. <i>Progress Report on Work at Harvard University on the Joule-Thomson Effect</i> . (Published in <i>Mechanical Engineering</i> , February 1924, p. 84)	
KNIGHT, W. A. Design of milling cutters (D).....	185

	PAGE
KRAMPE, H. J. Economical thickness of insulation in refrigerators (D).....	522
KRUSE, PAUL F. Gibson method of measuring the flow of water (D).....	383
Labor-Saving Equipment, Formulas for Computing Economies of. Report of Committee on. (See <i>Mechanical Engineering</i> , September 1923, p. 561)	
LANDIN, MAURICE, obituary.....	910
LANDIS, J. N. Reheating in central stations (D).....	770
LANGELIER, ANTOINE J., obituary.....	911
LAWRENCE, JOHN H. Boiler test results with preheated air (D)	598
Reheating and regenerating in central stations (D).....	798
Leakage prevention in hydraulic turbines.....	49
LEE, MYRON A. <i>A Practical Laboratory and Drawing-Room Course in Industrial Engineering at Cornell University</i> . (Published in <i>Mechanical Engineering</i> , August 1923, p. 475)	
LESSLEYS, J. M. Journal lubrication (D).....	443
Lignite char: its production and possibilities (I).....	99
methods of burning.....	103
Utilization Board of Canada.....	105
LINDSTROM, CHARLES A., obituary.....	911
LITTLEHALES, G. W. Principles of long-distance air navigation (D)	879
Locomotives, Power Test Code for, Preliminary Draft of. (See <i>Mechanical Engineering</i> , October 1923, p. 602)	
LOEB, LEO. Boiler test results with preheated air (D).....	599
LONGFIELD, REYNOLDS. Steam-loss prevention plan in textile finishing plant (D).....	418
Losses, steam, prevention of.....	405
LOWNDES, R. H. <i>Use of Pulverized Coal in Open-Hearth Furnaces</i> . (Published in <i>Mechanical Engineering</i> , November 1923, p. 651)	
Lubricating oils, viscosity of, at high pressure. (See <i>Mechanical Engineering</i> , September 1923, p. 513)	
Lubrication, journal, graphical study of.....	421
MACRUDER, W. T. Journal lubrication (D).....	442
<i>Making America Independent in the Air</i> . (Published in <i>Mechanical Engineering</i> , September 1923, p. 513)	
Management, bibliography on.....	837
measurement of.....	825
MANSFIELD, ALBERT K., obituary.....	911
Margins of possible improvement in the central-station steam plant (I).....	644

	PAGE
MARSHALL, WALDO H., obituary.....	912
MARTIN, FREDERICK S., obituary.....	912
MARTIN, JOHN F., obituary.....	913
MARVIN, C. F. Principles of long-distance air navigation (D).....	882
MARX, GUIDO H. Journal lubrication (D).....	436
MATTHEWS, FRED. Economical thickness of insulation in refrigerator cars (D).....	523
McADAMS, W. H., AND FROST, T. H. <i>Heat Transfer for Water Flowing Inside Pipes</i> . (Published in <i>Refrigerating Engineering</i> , March 1924, p. 323)	
McADIE, ALEXANDER. Principles of long-distance air navigation (D)	882
McCAMPBELL, JOHN A., obituary.....	913
McDEWELL, H. S., obituary.....	913
McGOWAN, JOHN B., obituary.....	914
McGRAW, FORRES, obituary.....	914
McGREGOR, WILLARD H. Steam-loss prevention plan in textile finishing plant (D).....	415
McKechnie oil engine.....	477
McKENNEY, W. F., AND TRYON, F. G. <i>Economic Phases of Coal Storage</i> . (Published in <i>Mechanical Engineering</i> , February 1924, p. 73)	
McKITTRICK, E. H. <i>The Relation of Mechanical Engineering to Management in the Textile Industry</i> . (Published in <i>Mechanical Engineering</i> , June 1924, p. 343)	
McNEILL, JOSEPH H., obituary.....	914
Measurement of management.....	825
Mechanical Power-Transmission Apparatus, Safety Code for. (See <i>Mechanical Engineering</i> , June 1923, p. 384)	
Metal, power required for cutting (I).....	193
Metals, Cutting and Forming of, Report on Present Status and Future Problems of the Art of. (See <i>Mechanical Engineering</i> , January 1924, p. 20)	
Meter, oil, venturi (I).....	67
MIDDLETON, HARVEY, obituary.....	915
MILLER, LEBBEUS B., obituary.....	927
Milling, power required for.....	193
Milling cutters, design of (I).....	165
effect of number of teeth in.....	170
horsepower required by.....	173
power used by.....	166
MOODY, LEWIS F. Flow of water in short pipes (D).....	403
Hydraulic turbines of large capacity (D).....	60
MOORE, SAMUEL L., obituary.....	915
MOSS, SANFORD A. Reheating and regenerating in central stations (D).....	801
MURPHREE, E. V. Journal lubrication (D).....	434

	PAGE
NAGEL, C. E., CROZIER, H. W., AND STIGEN, JOHN. <i>Diesel-Engine Progress on the Pacific Coast</i> . (Published in <i>Mechanical Engineering</i> , July 1923, p. 421)	
NAGLER, FORREST. <i>Cross-Flow Impulse Turbine</i>	77
NASH, LEWIS H., obituary.....	915
Navigation, astronomical.....	862
radio	843, 867
NAYLOR, H. R. <i>Steel-Car Construction at Angus Shops of Canadian Pacific Railway</i>	151
NICHOLLS, P. Economical thickness of insulation in refrigerator cars (D).....	521
NICOL, GEORGE A., JR. Economical thickness of insulation in refrigerator cars (D).....	518
Nozzles, oil-injection, proportions of.....	495
OBERLY, ROBERT S., obituary.....	916
Oil cracking	479
Oil engine, solid-injection (I).....	471
two-stage combustion type.....	493
Oil-injection nozzles, proportions of.....	495
Oil venturi meter (I).....	67
Ontario, hydroelectric developments in (I).....	21
ORROK, GEO. A. Hydroelectric development problems (D)....	559
Progress in Steam Research, Report on. (See <i>Mechanical Engineering</i> , February 1924, p. 81)	
Reheating and regenerating in central stations (D).....	799
OSBORNE, N. S. <i>A Calorimetric Method of Surveying the Behavior of Steam</i> . (Published in <i>Mechanical Engineering</i> , February 1924, p. 88)	
OSBORNE, N. S., AND STIMSON, H. F. <i>Report on Progress in Steam Research at the Bureau of Standards</i> . (Published in <i>Mechanical Engineering</i> , February 1924, p. 81)	
Oven, lignite char.....	102
OXFORD, CARL J. Design of milling cutters (D).....	180
Power required for cutting metal (D).....	219
Parallel feedwater heating.....	658
PARKER, THOMAS T., obituary.....	916
PARSONS, FRED A. Design of milling cutters (D).....	182
Power Required for Cutting Metal.....	193
PECK, EUGENE C. <i>The Unilateral System of Tolerances</i> . (Published in <i>Mechanical Engineering</i> , December 1923, p. 697)	
PESSANO, ANTONIO C., obituary.....	928
PETERSON, J. WILLIAM, obituary.....	917
PHILLIPS, CECIL O., obituary.....	917
Pipes, short, flow of water in.....	393

	PAGE
Piping, steam power plant.....	695
POLIAKOFF, R. Design of milling cutters (<i>D</i>).....	184
Power Boilers, Proposed Code for Care of. (<i>See Mechanical Engineering</i> , June 1923, p. 368)	
Power, cost of.....	529
metering of.....	408
demands of chemical industry.....	543
Power despatcher.....	407
Power-plant cycles, ideal.....	664
economies as affected by modifications of the heat cycle (<i>I</i>)	643
Power plants, central, reheating in (<i>I</i>).....	741
Power required by boiler auxiliaries (<i>C</i>).....	612
for cutting metal (<i>I</i>).....	193
Power systems, interconnection of.....	563
Power Test Codes. Instruments and Apparatus. (<i>See Mechanical Engineering</i> , February 1923, p. 116)	
Internal-Combustion Engines. (<i>See Mechanical Engineering</i> , March 1923, p. 193)	
Locomotives. (<i>See Mechanical Engineering</i> , October 1923, p. 602)	
Stationary Steam-Generating Units. (<i>See Mechanical Engineering</i> , September 1923, p. 548)	
technical committee reports.....	885
Power-transmission apparatus, safety code.....	887
POWERS, RICHARD E., obituary.....	917
Preheated air, boiler test results with (<i>I</i>).....	567
Preheating air with extracted steam.....	658
Price oil engine.....	474
Principles of long-distance air navigation (<i>I</i>).....	841
Public obligations of the engineer.....	257
PURDY, R. B. Reheating and regenerating in central stations (<i>D</i>)	774
Quebec, hydroelectric possibilities of (<i>I</i>).....	13
Queenston-Chippawa hydroelectric development.....	21
QUINN, EDWARD O., obituary.....	918
Radio navigation.....	843, 867
RALSTON, FARLEY C. <i>Boiler-Plant Economics</i>	607
Rankine cycle.....	665, 673
RANSOM, T. W., obituary.....	918
REDIER, ROGER P., obituary.....	918
Refrigeration, annual cost of (<i>C</i>).....	501
bibliography	513
Refrigerator cars, economical thickness of insulation in (<i>I</i>)....	497
Refrigerators, air-space construction.....	507
Regenerating and reheating for steam power plants (<i>I</i>).....	663

	PAGE
Regenerative cycle.....	667, 676
steam power plants, feedwater temperatures in (<i>T</i>).....	686
Regranulated cork as refrigerator insulation.....	505
Reheaters, heating surface required (<i>T</i>).....	807
surface requirements of.....	763
Reheating in central stations (<i>I</i>).....	741
cycle	666, 674
Reheating-regenerating cycle	669, 677
Reheating-regenerative steam power plants, feedwater temperatures in (<i>T</i>).....	687
Reheating and regenerating for steam power plants (<i>I</i>).....	663
Reports, technical committee.....	885
Research, Reports on Fluid Meters. <i>See</i> Fluid Meters.	
Lubrication. <i>See</i> Lubricating oils, viscosity of, at high pressures	
Steam, Progress in. (<i>See</i> <i>Mechanical Engineering</i> , February 1924, p. 81)	
RICE, PHILIP X. <i>Economical Thickness of Insulation in Refrigerator Cars</i>	497
RICHARDSON, C. G. Oil venturi meter (<i>D</i>).....	74
RICKETTS, EDWIN B. <i>Boiler-Furnace Design</i> . (Published in <i>Mechanical Engineering</i> , May 1923, p. 299)	
RIDDILE, JOHN S. Salt velocity method of water measurement (<i>D</i>)	379
RIDER, JOSEPH B., obituary.....	919
RILEY, R. SANFORD. Boiler test results with preheated air (<i>D</i>)	603
RIITMAN, W. F., AND ELY, SUMNER B. <i>Power and Fuel Consumption of the Iron and Steel Industries of the Pittsburgh District</i> . (Published in <i>Mechanical Engineering</i> , July 1923, p. 401)	
ROBERTS, A. R. Journal lubrication (<i>D</i>).....	437
ROBINSON, ERNEST L. <i>Margins of Possible Improvement in the Central-Station Steam Plant</i>	644, 802
ROE, JOSEPH W. <i>Measurement of Management</i>	825
ROGERS, JOHN I., obituary.....	919
Roller Chains and Sprockets, Report of Committee on. (<i>See</i> <i>Mechanical Engineering</i> , August 1923, p. 500)	
ROSE, ALEXANDER, obituary.....	920
ROSENCRANTS, F. H. Feedwater heating (<i>D</i>).....	766
Reheating and regenerating in central stations (<i>D</i>).....	768
ROWEN, JOHN H., obituary.....	920
RUSSELL, HENRY N. Principles of long-distance air navigation (<i>D</i>)	878
Safety Code for Mechanical Power-Transmission Apparatus. (<i>See</i> <i>Mechanical Engineering</i> , June 1923, p. 384)	
Safety codes, technical committee reports.....	887

	PAGE
St. Lawrence power development.....	552
Salt velocity method of water measurement (<i>I</i>).....	285
SARGENT, JOHN W., obituary.....	920
SAVAGE, H. D. Lignite char (<i>D</i>).....	108
SAYRE, M. F., AND BASCH, D. <i>Resistance of Various Aluminum Alloys to Salt-Water Corrosion</i> . (Published in <i>Mechanical Engineering</i> , April 1924, p. 199)	
SCHWEITZER, P. H. Solid-injection oil engines (<i>D</i>).....	491
Scotch marine boiler, efficiency of (<i>I</i>).....	229
Screw-thread standardization, technical committee report.....	886
Screw Threads for Bolts, Machine Screws, Nuts, and Commercially Tapped Holes, Standard for. (See <i>Mechanical Engineering</i> , August 1923, p. 498)	
Screw Threads, Standardization and Unification of, First Report of Committee on. (See <i>Mechanical Engineering</i> , August, 1923, p. 498)	
Scroll case, Taylor sectional, for hydraulic turbines.....	50
SEABROOK, CHARLES R., obituary.....	921
SEARS, WILLARD T., obituary.....	921
Shade temperatures, average in U. S. (<i>C</i>).....	510
Shafting standardization, technical committee report.....	886
Shafting, Standards for Cold Finished. Report of Committee on. See <i>Mechanical Engineering</i> , Nov. 1923, p. 668)	
SHEPARD, CHARLES D. Efficiency of the Scotch marine boiler (<i>D</i>)	235
SHEPHERD, H. F. <i>Solid-Injection Oil Engine</i>	471
SIBLEY, ROBERT. <i>The Electrical and Industrial West</i> . (Published in <i>Mechanical Engineering</i> , August 1923, p. 457)	
Sil-O-Cel as refrigerator insulation.....	517
SJÖVALL, H. <i>Endurance Test Data and Their Interpretation</i> ...	141
Slide rule for determining power required for cutting metal...	213
SMALL, H. J., obituary.....	922
SMALLWOOD, JULIAN C. <i>Blended Fuels for Automotive Engines</i> . (Published in <i>Mechanical Engineering</i> , October 1923, p. 577)	
SMITH, AUGUSTUS. Steel-car construction at Angus shops of Canadian Pacific Railway (<i>D</i>).....	163
SMITH, CLARENCE L., obituary.....	922
SMITH, ED S. <i>Oil Venturi Meter</i>	67
SMITH, JULIAN C. <i>Hydroelectric Possibilities of Quebec</i>	13
SÖDERBERG, CARL RICHARD. <i>Recent Developments in Balancing Machines</i>	111
Solid-injection oil engine (<i>I</i>).....	471
SORZANO, JULIO F., obituary.....	922
Sprocket standardization, technical committee report.....	886
Stage heating, comparative economy of.....	737
Standardization, technical committee reports.....	886

Standards. Carriage Bolt Heads. <i>See</i> Wrench-Head Bolts and Nuts	
Herringbone Gears. <i>See</i> Gears, herringbone	
Plain Limit Gages. <i>See</i> Tolerances and Allowances for Machined Fits	
Round Unslotted Bolt Heads. <i>See</i> Bolt Heads	
Screw Threads. <i>See</i> Screw Threads	
Shafting. <i>See</i> Shafting	
Transmission Chains and Sprockets. <i>See</i> Roller Chains	
Stationary Steam-Generating Units, Power Test Code for. (<i>See</i> <i>Mechanical Engineering</i> , September 1923, p. 548)	
Steam cycles. <i>See</i> Cycles, steam	
theoretical capacities of (C).....	661
theoretical efficiencies of (C).....	650
Steam, exhaust, available energy of (C).....	682
Steam extraction, formulas for.....	662
Steam, horsepower of a pound of (C).....	795
Steam-loss prevention plan operating in a textile finishing plant (I).....	405
Steam plant, central-station, margins of possible improvement in (I).....	644
Steam-plant performance, methods of estimating.....	683
Steam power, cost of.....	529, 559
Steam power plants, auxiliary power in.....	689
boiler heating surface required in.....	693
condenser surface required in.....	688
cost of (C).....	700
cycles, ideal.....	664
effect of pressure and cycle on cost of energy (C).....	704
effect of pressure and cycle on thermal economy (C).....	706
fuel consumption in.....	702
high-pressure, reheating and regenerating for (I).....	663
piping.....	695
Steam, properties of, technical committee report.....	885
Steam research, progress in. (<i>See</i> <i>Mechanical Engineering</i> , February 1924, p. 81)	
Steam tables, technical committee report.....	885
Steel-car construction at Angus shops of Canadian Pacific Railway (I).....	151
Steel, power required for milling (C).....	198
STEINMETZ, CHARLES P., obituary.....	923
STIGEN, JOHN, CROZIER, H. W., AND NAGEL, C. E. <i>Diesel-Engine Progress on the Pacific Coast</i> . (Published in <i>Mechanical Engineering</i> , July 1923, p. 421)	
STIMSON, H. F., AND OSBORNE, N. S. <i>Report on Progress in Steam Research at the Bureau of Standards</i> . (Published in <i>Mechanical Engineering</i> , February 1924, p. 81)	

	PAGE
STROWGER, E. B. Gibson method of measuring the flow of water (D)	384
Superheaters, heating surface required (T).....	807
SWITZER, J. A., AND WOOLRICH, W. R. <i>The Water, Coal, and Man Power of the Western Slope of the Southern Ap- palachian Mountains.</i> (Published in <i>Mechanical Engi- neering</i> , November 1923, p. 637)	
SYMONS, W. E. Journal lubrication (D).....	441
TAYLOR, EDWIN A. <i>Salt Velocity Method of Water Measure- ment</i>	285
TAYLOR, H. BIRCHARD. Hydraulic turbines of large capacity (D)	60
Methods of measuring the flow of water (D).....	388
Technical committee reports.....	885
Telescope, Willson bubble.....	863
Temperature-entropy diagram.....	651
for combination of mercury, steam, and ammonia (C)....	653
three-dimensional	771
Temperatures, average annual shade, in U. S. (C).....	510
Textile finishing plant, steam-loss prevention plan for (I)....	405
Thermal economy, effect of pressure and cycle on in steam power plants.....	706
THOMPSON, CARROLL R. <i>Material-Handling Problems in Pier Design.</i> (Published in <i>Mechanical Engineering</i> , Septem- ber 1923, p. 525)	
THOMSON, LESSLIE R. Lignite char (D).....	105
THOMSON, T. KENNARD. Hydroelectric development problems (D)	566
THOMSON, THOMAS S., obituary.....	923
TIMOSHENKO, S. <i>Bending Stresses in Curved Tubes of Rec- tangular Cross Section</i>	135
<i>Bending and Torsion of Multi-Throw Crankshafts on Many Supports</i>	449
Journal lubrication (D).....	443
Tolerances, Unilateral System of. (See <i>Mechanical Engineer- ing</i> , December 1923, p. 697)	
Tolerances and Allowances for Machined Fits, Standard, Report of Committee on Standardization of Plain Limit Gages. (See <i>Mechanical Engineering</i> , December 1923, p. 699)	
TOLTZ, MAX. Lignite char (D).....	103
Steel car construction at Angus shops of Canadian Pacific Railway (D)	162
Torsion and bending of multi-throw crankshafts on many sup- ports (I).....	449
TOWER, DANIEL W., obituary.....	924
Transmission chains, technical committee report.....	886
Transmission chains and sprockets. See Roller chains	

	PAGE
Traverse table, graphic.....	859
TRUMP, E. N. Lignite char (D).....	108
TRYON, F. G., AND McKENNEY, W. F. <i>Economic Phases of Coal Storage</i> . (Published in <i>Mechanical Engineering</i> , February 1924, p. 73)	
TSCHAPPAT, W. H. <i>New Instruments for Physical Measurements</i> . (Published in <i>Mechanical Engineering</i> , December 1923, p. 673)	
Tubes, curved, of rectangular cross-section, bending stresses in (I)	135
Turbine, binary-vapor.....	653
cross-flow impulse (I).....	77
Turbine expansion lines (C).....	720
Turbine extraction characteristics (C).....	729
Turbine leaving losses (C).....	718
Turbines, hydraulic, of large capacity (I).....	41
Turbo-generator and heater efficiencies (C).....	684
UHL, W. F. Cross-flow impulse turbine (D).....	96
U. S. Navy Crane Ship No. 1: <i>An Achievement</i> . See <i>Kearse</i>	
Venturi meter.....	377
oil (I).....	67
WARNER, JOHN A. C. Principles of long-distance air navigation (D)	877
Water, flow of in short pipes (I).....	393
Gibson method of measuring flow of.....	343
measurement of by salt velocity method.....	285
measurement of flow in open channels.....	239
Water power, cost of.....	529, 559
in Ontario (I).....	21
in Quebec (I).....	13
site, value of.....	540
WEBER, GEORGE A., obituary.....	924
WEBER, PETER, obituary.....	925
WEBSTER, ARTHUR G., obituary.....	925
WHEELER, SCHUYLER S., obituary.....	925
WHITAKER, HENRY E., obituary.....	926
WHITCOMB, F. O. Steel-car construction at Angus shops of Canadian Pacific Railway (D).....	161
WHITE, WILLIAM MONROE. Hydraulic turbines of large capacity (D).....	65
Hydroelectric development problems (D).....	565
Hydroelectric power in Canada (D).....	38
Methods of measuring the flow of water (D).....	389

	PAGE
WILLIAMS, C. C. <i>Ordnance Industrial Mobilization</i> . (Published in <i>Mechanical Engineering</i> , November 1923, p. 627)	
WILLIAMS, J. P. J. Hydroelectric development problems (D)	565
WILLIAMSON, CHARLES S., obituary	926
WILLSON, ROBERT W. <i>Principles of Long-Distance Air Navigation</i>	841
WILSON, HENRY C., obituary	926
WILSON, J. A. <i>The Control of Civil Aviation</i> . (Published in <i>Mechanical Engineering</i> , October 1923, p. 571)	
Wind table for dead reckoning	853
WINTER, JOHN R., AND GALBREATH, W. W. <i>The Development of Modern Stamping Practice</i> . (Published in <i>Mechanical Engineering</i> , January 1924, p. 17)	
WOHLENBERG, W. J. Reheating and regenerating in central stations (D)	766
<i>Reheating in Central Stations</i>	741, 814
WOLF, R. B. <i>Management Engineering in the Paper Industry</i> . (Published in <i>Mechanical Engineering</i> , May 1923, p. 295)	
WOOD, ARTHUR J. <i>Economical Thickness of Insulation in Refrigerator Cars</i>	497
WOOD, HENRY E., obituary	927
WOOLRICH, W. R., AND SWITZER, J. A. <i>The Water, Coal, and Man Power of the Western Slope of the Southern Appalachian Mountains</i> . (Published in <i>Mechanical Engineering</i> , November 1923, p. 637)	
Wrench-Head Bolts and Nuts, Proposed Standard Sizes for, Report of Committee on. (See <i>Mechanical Engineering</i> , December 1923, p. 702)	

